

genetic relation we know nothing. It is, however, the case that our knowledge of this relation, in an exceedingly large number of moulds (including the Dematiei), is still so obscure that we cannot accept the opinion of those who think that the Fungi, even now, ought not to be included in any system. This mode of treatment leads to the neglect of the generally very fine and, in any case, very important forms which belong to it, and thus to a decline of our knowledge of these plants which they do not deserve. Besides, following Fuckel, we can contrast with the series of "Fungi perfecti" a series of "Fungi imperfecti," and thus reconcile the two opinions.

The production of circular divisions on the fertile branches of our fungus is likewise one of its remarkable peculiarities. The phenomenon is of comparatively rare occurrence. Among the Algæ it is observed in the *Cedogoniaceæ*, and among the lowest of all organisms in *Bacillus subtilis* (among the Schizomycetes) and in the Mucorineæ. In the Hyphomycetes no case of the kind had hitherto been observed.

The diagnosis of our Fungus must run as follows, according to what has been stated:—

*Sporendonema terrestre*, Oud.

Mycelio in terra humosa repente albo, articulado, ramoso; hyphis fertilibus erectis, ramosis, continuis. Sporis endogenis, a se invicem remotis, ex hypharum fertilium protoplasmate ortis, primitus achromis, utrinque planis, postremo fuscis, utrinque rotundatis, manicatis, *i. e.* tubulo membranaceo brevi, achromo, ex hypharum interstitiis vacuis circumcissione orto ornatis. Longit. sporarum  $7\ \mu$ , latitudo earum  $2\frac{1}{3}\ \mu$ , absque appendiculis maniciformibus.

LV.—*Descriptions of new Species of Moths (Noctuites) from the Solomon Islands.* By ARTHUR G. BUTLER, F.L.S., F.Z.S., &c.

THE following new species are from the collection recently sent home by Mr. C. M. Woodford.

**Ommatophoridæ.**

1. *Nyctipao variegata*, sp. n.

♀. Nearest to *N. crepuscularis*, decidedly larger; the ocellus of primaries as in *N. ephesphoris* and bounded by a

broader bone-yellowish belt than in *N. crepuscularis*; the transverse pale stripe crossing the angle of this belt very indistinct and quite perpendicular, instead of slightly oblique; the seventh spot of the submarginal zigzag series considerably enlarged: secondaries entirely different, the basal area pale sordid buff, gradually changing to vinous brown before the middle, with a large apical darker brown patch interrupted by the usual cuneiform, subcostal, apical, white spot, which is, however, twice as large as in *N. crepuscularis*; basal fourth crossed by a blackish-brown stripe; a nearly straight diffused dark brown stripe across the middle; six submarginal black spots with whitish sigmoidal or lunate inner borders: abdomen with no basal brown band or subbasal white band, pale greyish brown or dove-coloured, with yellowish base and sides. Under surface quite unlike that of *N. crepuscularis*, pale sandy buff, with a more or less arched purplish-brown stripe before the middle of all the wings and a broad external border of the same colour enclosing a zigzag series of large white spots: primaries with a white crescentic spot at the end of the cell: secondaries with a dark brown angular discocellular spot: body below sandy buff, the anterior half of the pectus ochraceous. Expanse of wings 119 millim.

Alu, Shortland Island.

## 2. *Nyctipao caliginea*, sp. n.

♀. Allied to *N. ephesphoris*, *leucotenia*, and *dentifascia*, but readily separable from all three by its slightly superior size, the distinctly broader external area, the much more angular white band across the primaries, the wider white band across the secondaries, the white and whitish zigzag series of markings on the external area well separated from the white band, the more purplish tint of, and better defined black stripes on, the basal area: the white apical spots resemble those of *N. ephesphoris*; on the under surface the white spots are large, as in *N. ephesphoris*, but the sixth spot of the primaries and the fifth of the secondaries are projected forward towards the outer margin, as in *N. dentifascia*. Expanse of wings 119 millim.

Alu.

## Thermesiidæ.

### 3. *Sonagara superior*, sp. n.

♂. Allied to *S. strigosa*, Moore (Descr. Atk. p. 180, p. v. fig. 17); decidedly larger. Wings above sericeous

pale sandy brownish, reticulated with grey: primaries with blackish costal dashes, a minute black point at the inferior angle of the cell; an oblique straight brownish streak from outer third of inner margin to apex: secondaries with a narrow, ill-defined, brownish central band; a black spot at the end of the cell: body pale sandy brownish, darker in front. Under surface slightly paler and yellower than above, reticulations less distinct, brown stripe of primaries ill-defined; band of secondaries wanting, a well-defined black spot at the end of each discoidal cell; palpi and front of pectus brownish. Expanse of wings 22 millim.

Alu.

### Erosiidæ.

#### 4. *Erosia mutans*, sp. n.

♀. Allied to a Ceylonese species (see Moore's Lep. Ceylon, pl. clxxxvi. fig. 7) of the same general tints and pattern, but larger, with broader primaries and differently formed discal stripe on these wings: primaries from base to discal stripe pale sericeous brown, mottled with grey; external area ash-grey, mottled with slate-grey; discal stripe whitish, changing to cupreous in certain lights, straight and transverse from costa to lower radial, thence acutely angulated, running in a double zigzag to near external angle, its inferior extremity forming the outer boundary of a subpyriform, black-bordered, grey spot on the inner margin; a submarginal series of black spots bordered with whitish, changing in certain lights to cupreous; fringe similarly coloured: secondaries slate-grey, with two submedian divergent streaks from the base, an acutely angulated stripe beyond the middle, a sinuous submarginal stripe and the fringe whitish, changing to cupreous; the basal area (excepting the cupreous streaks), the inner border of the posterior portion of the postmedian stripe, and a cuneiform patch connecting its anterior portion with the outer stripe blackish brown; submarginal stripe imperfectly bordered externally with black: face bronze-brown; vertex of head and antennæ silvery white, collar dark brown, thorax and tegulæ whitish; abdomen grey, with a black transverse basal stripe. Under surface wholly leaden grey, with indistinct darker mottling on the wings; the costa of secondaries with coarse blackish fringe. Expanse of wings 24 millim.

Alu.

The above may belong to the group named *Dirades* by Walker, in which the sexes differ in the shape and slightly in

the pattern of the secondaries. The following is undoubtedly a *Dirades* :—

5. *Dirades aluensis*, sp. n.

Allied to *Erosia theclata* = *E. adjutaria* (females of *Dirades binotata*); the sexes of the same general shapes and colours; male vinous brown: primaries with blackish costa; a semi-circular black spot beyond the middle of inner margin; an oblique subapical blackish dash and an interrupted pale-edged black submarginal line; apex black on the fringe: secondaries with the basi-internal half bounded externally by a whitish line, which is elbowed just before it reaches the abdominal margin; the inferior half of the basal area bounded by a black line, its anterior half also being bright copper-red and its posterior half grey; abdominal fold white; fringe from apex to second caudate angle black. The female is greyer than the male, and, owing to the greater width of the secondaries, the angle of the line bounding the basal area is formed in the middle of the wing; the red longitudinal band from the base is darker and duller, and the whole of the remainder of the wing is grey, with the exception of a black-edged spot on basi-internal half: body greyish brown, with the antennæ and tegulæ whitish. Under surface pale brown, the secondaries paler than the primaries; the male of a more golden brown than the female. Expanse of wings, ♂ 18 millim., ♀ 20 millim.

Alu.

Hypenidæ.

6. *Hypena iridis*, sp. n.

Primaries above brown, the basal two thirds shot with lilac in certain lights, bounded externally by a black transverse line (on the inner side of which the shot-colouring is wanting so as to leave a band of the ground-colour) edged externally with snow-white, immediately following which is a diffused band of lilacine scales; a marginal series of whitish and black dots; fringe whity brown, tipped with dark grey and with two central wavy dark grey lines: secondaries grey-brown, with a darker marginal line; fringe whiter than in primaries; costal border whitish: body brown. Under surface sericeous greyish brown; wings with a black marginal line; fringes as above. Expanse of wings 30 millim.

Nearest to *H. iconicalis* from Ceylon, Java, &c., with similar palpi.

7. *Hypena sylpha*, sp. n.

Allied to *H. molpusalis*, from Ceylon (= *H. sparsalis*, from Java); smaller and more slender, with differently formed central band across primaries: these wings are lilacine grey, crossed near the base by an ill-defined black line; a partly black-edged cuneiform brown patch from cell to inner margin, where it unites with a brown band running across the middle of the wing; this band is edged externally by a black and whitish feebly biangulated stripe; discoidal spots blackish, the reniform spot having a pale centre; three or four whitish crescents in an oblique series beyond the cell and a discal series, parallel to the outer margin, of blackish spots bounded externally by whitish crescents; a marginal series of blackish crescents bounded internally by whitish dots: secondaries greyish, with blackish marginal line; fringe whitish, spotted from apex to beyond the middle with white-centred black spots: body above greyish, darker in front. Under surface sericeous greyish; wings with a black marginal line; fringe blackish, with interrupted slender basal white line. Expanse of wings 21 millim.

Alu.

The delicate palpi of this species and *H. molpusalis* seem to me to indicate a generic distinction between this species and the preceding one; but, until the whole genus *Hypena* can be thoroughly revised, it is of no use to attempt to separate isolated species. Distinctive characters which, at first sight, appear to be trustworthy may prove to graduate one into another.

## Herminiidæ.

8. *Epizeuxis minima*, sp. n.

Bone-whitish, irregularly transversely banded, but especially beyond the middle, with rufous-brown; the basal two thirds of primaries being almost clear in the type, interrupted chiefly by indications of a slightly zigzag central band, the outer edge of which is marked by a whitish line bounded towards costa by a blackish dash; costa black-spotted; a conspicuous black spot just below the middle of the disk, and three blackish spots connected by brownish ring-spots on outer margin; fringe ochraceous, the outer half paler, tipped with grey, the inner half varied with rufous-brown: secondaries with two black dots on an ill-defined rufous spot in the cell; a marginal chain-like border of brown ring-spots as in primaries; fringe also similar to that of those wings: body whitish, palpi tipped and banded with blackish. Under surface shin-

ing white, with the outer half of the wings transversely striped and clouded with grey; fringes ochreous, tipped with grey and traversed by a line of the same colour. Expanse of wings 18 millim.

Alu.

9. *Aginna notata*, sp. n.

♀. Pale flesh-coloured or whity brown suffused with pink; a slightly browner diffused border to all the wings: primaries with a minute black dot at the end of the cell, a few black scales sprinkled transversely across the disk, terminating in a well-marked blackish spot near external angle; a marginal series of black dots: secondaries with whitish costal area; a grey spot at end of cell; an indication of four dots, in blackish scales, crossing the median branches obliquely at about one third the distance from the cell to the outer margin and three more, the third better defined, at two thirds; a submarginal grey streak near anal angle. Under surface of wings with a conspicuous black dot at the end of each cell, and an imperfect transverse discal series of unequal, more or less defined grey or blackish spots. Palpi and legs brownish externally. Expanse of wings 50 millim.

Alu.

10. *Aginna erebina*, sp. n.

♂. Smoky brown: primaries faintly tinted with lilacine on basal half; two widely divergent dentate-sinuate black lines, the first across the basal fourth, the second across the external two fifths, and between them a black imperfect reniform spot in outline; a straight, slightly oblique yellowish line across the disk; a marginal series of conical black spots; fringe traversed externally by a pale grey line: secondaries with a dusky spot at end of cell followed by an oblique dusky stripe; a slightly sinuous yellow stripe across the disk, bent upwards near anal angle; marginal spots and fringe as in primaries: palpi pale ochreous; abdomen greyish, with narrow whitish edges to the segments. Under surface very dark, smoky brown; wings with conspicuous black spots at the extremities of the discoidal cells, an arched or bent blackish stripe beyond the middle, and a somewhat dentated pale-bordered discal blackish stripe; marginal spots and fringes as above: legs clothed with dense masses of black-brown appressed hairs. Expanse of wings 46 millim.

Alu.

Though coloured like a *Herminia* the structure of the antennæ, palpi, and legs proves it to be a true *Aginna*.

11. *Bocana stellaris*, sp. n.

Allied to *B. asopusalis* (of which *Diomea bryophiloides* is a distorted specimen): primaries sericeous grey-brown, bronzy in certain lights, crossed at about basal fourth by a crinkled black line; reniform spot white with black edges; an arched denticulated white-edged blackish line beyond the middle; a zigzag series of more or less connected white spots and crescents near outer margin, and a marginal series of triangular jet-black spots, relieved on the fringe by a series of subconfluent white spots: secondaries paler and greyer than primaries, with a white-bordered angular grey line beyond the middle, and a second, abbreviated, towards anal angle; a slender black marginal line followed by a white line at the base of the fringe: thorax slightly ochreous, brown; abdomen grey, with two or three white dorsal spots. Under surface brownish grey, with a faint lilacine tint in certain lights; all the wings with a black-edged white spot at end of cell, and two more or less irregular black discal lines, the outer one interrupted, more or less separated into distinct spots and white-edged externally; a slender black marginal line, followed by a slender white line at the base of the fringe: body below golden brown. Expanse of wings 24 millim.

Alu.

12. *Egnasia ænea*, sp. n.

Primaries whitly brown, with brassy reflexions; costal border blackish at base; orbicular spot small, black; reniform spot large, C-shaped, black; two black dots towards base of interno-median area; a longitudinal white streak, interrupted by the ordinary black spots, through the discoidal cell; an irregularly sinuous white discal band, bounded on both sides by a series of subconfluent black spots; external border suffused with smoky brown: secondaries of male white, with a subquadrate basi-internal blackish patch, a black discocellular spot, a black discal line, its central third arched outwards, and a tolerably broad external brown border following the discal line so as to leave a band of white between; secondaries of female either as in the male or with the basal area as far as the discal line brown: face, vertex of head, and mesothorax brown, remainder of body white; terminal joint of palpi and antennæ yellow. Under surface whitish varied with testaceous, the latter colouring replacing the brown of the upper surface; black markings ill defined; the whole surface of the wings sericeous, with brassy reflexions. Expanse of wings 18-26 millim.

Alu.

Allied to "*Hypenodes*" *jucundalis* of Snellen (Tijd. voor Ent. 1886, pl. v. fig. 10); but I do not see how it differs from *Egnasia*, and it certainly has little in common with *Hypenodes*.

### 13. *Ballatha elegans*, sp. n.

Allied to *B. atrotumens*\*: primaries above pearl-grey, suffused towards base and on costal area towards apex with brownish; a broad oblique white belt from costa before the middle to the external angle, whence it curves upwards to apical third of outer margin, whence to apex it becomes very narrow and obscure; the projecting patch of scales just beyond the middle of inner margin elliptical, blue-grey and black spangled with silver; a few scattered silver scales on basal area and others indicating the ordinary position of the discoidal spots, a few bounding a brownish costal patch immediately beyond the white belt; a silver stripe forming the inner boundary of the brownish apical patch; a brighter silver lunulated marginal stripe; fringe grey; subapical ocellus large, oval, black, with linear yellowish pupil and iris of the same colour; a small black apical spot: secondaries clear, soft, golden ochreous, paler on the costa and fringe; a diffused grey apical patch: head and collar testaceous, with micaceous shining scales on the face and vertex of head; tegulæ slightly greyer with similar scaling; thorax grey; antennæ whitly brown; palpi ochreous; abdomen pale, soft, ochreous. Under surface bright clear ochreous, the body whitish, the legs tinted above with ochreous; primaries with an oblique, abbreviated, broad, dark grey band on the disk. Expanse of wings 40 millim.

Alu.

This is by far the most beautiful species of this singular genus hitherto described.

## LVI.—*New Infusoria from New Zealand.*

By T. W. KIRK.

### *Opercularia parallela*.

Body slender, about three times as long as broad; sides parallel for about two thirds of their length from the margin, then tapering rapidly to the pedicle. Peristome border not,

\* A species of the same genus has been described and figured as an *Epizeuxis*! by Snellen (Tijd. voor Ent. 1879, p. 130, pl. vii. fig. 1).